

Section 9

1998 Occupant Protection

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Note:

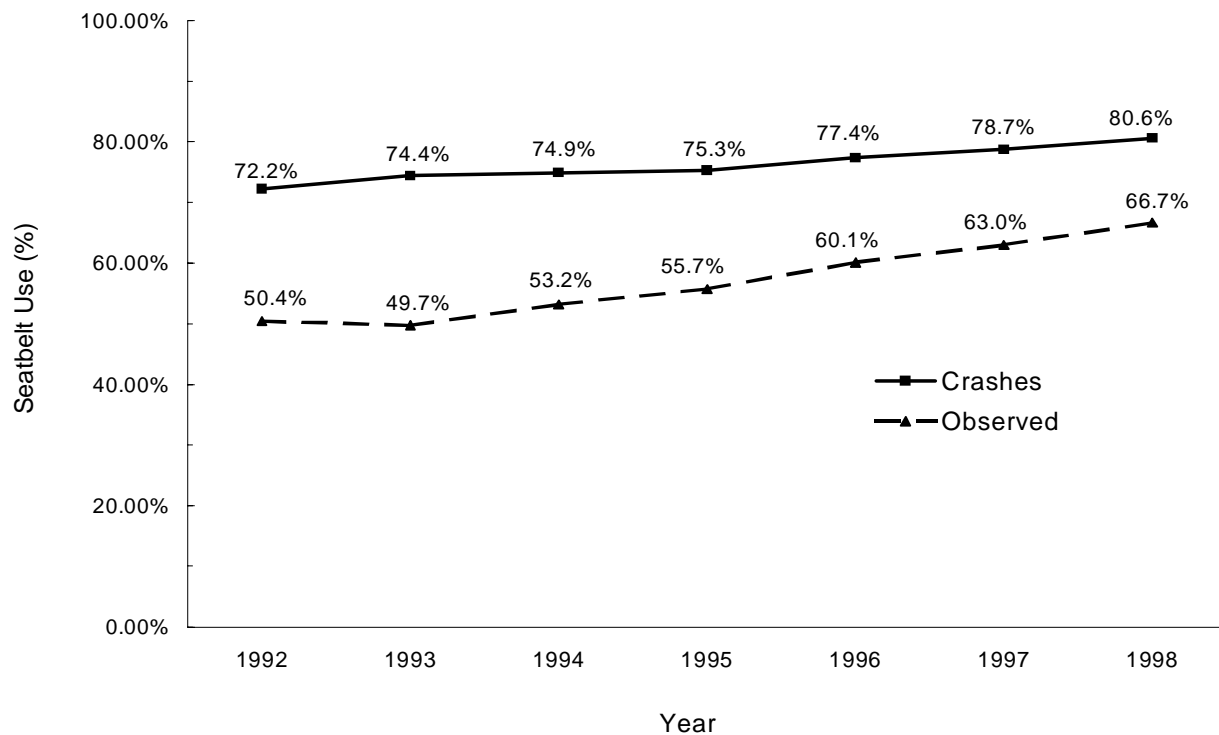
Seatbelt Use - Seatbelt use is reported for occupants in a passenger car, a light truck or van. Occupants are coded as wearing a seatbelt if they reported using a shoulder/lap belt, lap belt or a child safety seat (occupants using only a shoulder strap were reported to be unbelted). In the majority of cases, seatbelt use as recorded by the investigating officer is self-reported by the crash occupant. It is possible that crash occupants may report using a seatbelt when they were not in order to avoid a citation or fine. In the case of fatal or severe injury crashes the officer will determine the seatbelt use.

Observational Study - Each year the Utah Department of Public Safety's Highway Safety Office conducts a seatbelt usage observational study. Study sites are located throughout the state where trained observers can record seatbelt use for drivers and front seat passengers of slow moving or stopped vehicles.

1992 - 1998 Occupant Protection

Figure 9.01 compares the percentage of seatbelt use reported in crashes to observational studies for drivers and front seat passengers. Seatbelt use by drivers and front-seat passengers has increased each year in both crashes and observational studies. The difference between crash seatbelt use rates reported by crash participants or the investigating officer at the crash scene and observed seatbelt use rates may be due to overreporting of seatbelt use by crash participants.

Figure 9.01 Percentage of Drivers and Front Seat Passengers Wearing Seatbelts in Crashes and Observational Studies, 1992 - 1998

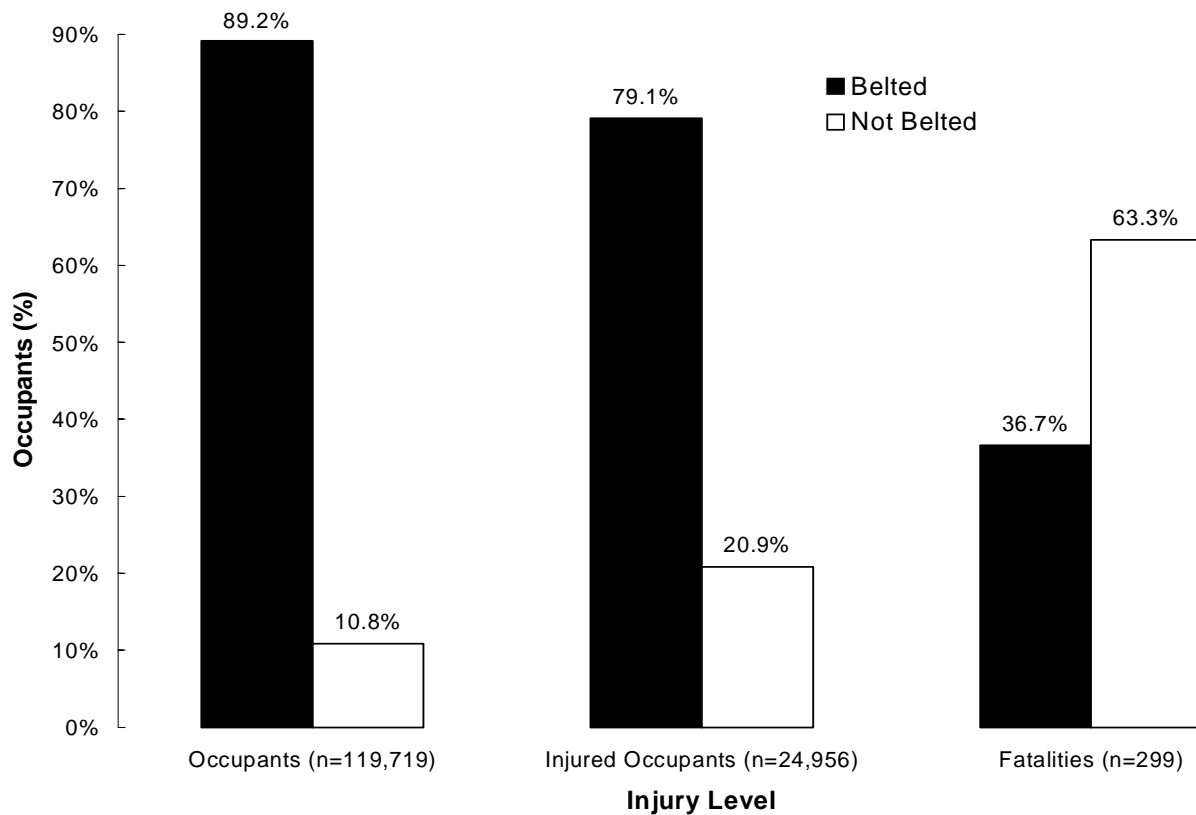


1998 Seatbelt Use

The statewide seatbelt use for all crash occupants (including back seat occupants) as reported to crash investigating officers is shown in Figure 9.02. The majority (89%) of occupants involved in a crash and the majority (79%) of the injured occupants reported using a seatbelt, compared to a third (37%) of the fatally injured occupants. Seatbelts are an important safety feature; occupants who were not wearing a seatbelt were 10 times more likely to sustain a fatal injury than occupants who were wearing a seatbelt.

Table 9.01 shows the self-reported seatbelt use of occupants by age and county. Davis County had the highest percentage of seatbelt use (92%), while Sevier had the lowest percentage of seatbelt use (72%).

Figure 9.02 Seatbelt Use by All Occupants, Injured Occupants, and Fatalities, 1998



1998 Seatbelt Use by Age and County

Table 9.01 Seatbelt Use by Age and County, 1998

County	Seatbelt Use	Age Group													Total	Percent
		00 - 04	05 - 09	10 - 14	15 - 19	20 - 24	25 - 29	30-39	40-49	50-59	60-69	70-79	80+	Unknown		
Beaver	Belted	20	16	19	99	76	41	46	53	45	32	14	0	2	463	80.5%
	Unbelted	3	2	9	43	15	6	12	8	5	0	4	1	4	112	19.5%
Box Elder	Belted	70	64	74	330	211	135	221	196	105	90	33	14	20	1,563	84.1%
	Unbelted	7	12	25	109	34	15	38	26	12	9	1	2	5	295	15.9%
Cache	Belted	245	126	165	1,139	867	417	533	434	227	134	112	60	32	4,491	85.9%
	Unbelted	11	13	40	238	187	67	65	44	21	21	13	10	6	736	14.1%
Carbon	Belted	20	22	15	150	52	39	66	67	59	26	22	9	5	552	78.1%
	Unbelted	3	4	4	53	27	13	27	8	9	3	1	0	3	155	21.9%
Daggett	Belted	0	3	1	11	5	4	12	8	10	3	3	1	1	62	83.8%
	Unbelted	1	0	1	2	0	1	5	0	2	0	0	0	0	12	16.2%
Davis	Belted	504	331	354	2,450	1,216	804	1,316	1,073	581	333	242	100	134	9,438	92.0%
	Unbelted	22	24	65	314	115	63	83	49	27	13	22	5	17	819	8.0%
Duchesne	Belted	22	20	28	119	47	36	69	68	38	23	13	5	5	493	75.3%
	Unbelted	5	8	15	55	23	9	20	13	5	3	1	3	2	162	24.7%
Emery	Belted	14	19	20	92	58	35	59	72	28	18	10	8	5	438	78.8%
	Unbelted	1	7	8	48	19	12	1	10	3	3	3	2	1	118	21.2%
Garfield	Belted	5	9	11	40	29	23	34	36	23	18	6	1	6	241	85.8%
	Unbelted	3	0	3	16	4	2	4	2	1	0	1	3	1	40	14.2%
Grand	Belted	10	10	13	42	46	41	38	42	29	23	10	3	7	314	79.9%
	Unbelted	0	2	3	21	22	1	11	3	8	2	0	0	6	79	20.1%
Iron	Belted	72	57	77	362	277	110	180	181	120	86	62	20	44	1,648	81.3%
	Unbelted	13	18	27	134	67	27	37	33	9	4	5	1	4	379	18.7%
Juab	Belted	24	25	22	74	61	33	61	62	46	26	7	2	3	446	80.9%
	Unbelted	4	6	10	35	10	9	10	12	2	3	0	2	2	105	19.1%
Kane	Belted	14	7	15	45	63	29	53	52	42	25	15	5	3	368	82.7%
	Unbelted	1	2	4	30	8	4	12	7	1	1	2	2	3	77	17.3%
Millard	Belted	33	30	32	160	98	59	101	68	43	32	23	9	3	691	82.7%
	Unbelted	1	5	18	42	20	12	14	16	7	5	2	3	0	145	17.3%

Table 9.01 Seatbelt Use by Age and County, 1998

County	Seatbelt Use	Age Group														Total	Percent
		00 - 04	05 - 09	10 - 14	15 - 19	20 - 24	25 - 29	30-39	40-49	50-59	60-69	70-79	80+	Unknown			
Morgan	Belted	2	4	12	48	18	13	29	20	15	9	2	0	9	181	80.4%	
	Unbelted	1	0	3	21	4	0	5	4	1	2	0	1	2	44	19.6%	
Piute	Belted	0	0	1	8	6	6	4	10	10	0	1	3	2	51	86.4%	
	Unbelted	0	0	0	4	0	0	1	2	0	1	0	0	0	8	13.6%	
Rich	Belted	2	4	4	25	14	10	15	13	9	5	4	0	12	117	83.0%	
	Unbelted	0	2	0	12	2	1	3	1	0	0	1	1	1	24	17.0%	
Salt Lake	Belted	2,133	1,488	1,411	10,126	7,727	5,558	8,276	6,384	3,482	1,825	1,153	422	731	50,716	91.9%	
	Unbelted	79	123	175	1,357	803	456	626	402	180	95	69	31	54	4,450	8.1%	
San Juan	Belted	12	13	19	41	50	32	79	69	36	21	15	2	13	402	82.0%	
	Unbelted	2	3	3	26	11	5	14	14	1	3	3	0	3	88	18.0%	
Sanpete	Belted	27	23	35	168	92	45	89	75	54	31	20	10	10	679	73.2%	
	Unbelted	6	13	15	108	33	13	26	12	7	3	6	1	5	248	26.8%	
Sevier	Belted	36	22	27	135	90	72	97	94	89	42	28	13	15	760	72.4%	
	Unbelted	11	6	21	109	45	19	33	19	6	9	4	1	7	290	27.6%	
Summit	Belted	35	32	32	225	175	130	228	184	107	32	26	8	34	1,248	89.9%	
	Unbelted	5	2	6	31	21	20	22	20	6	3	2	0	2	140	10.1%	
Tooele	Belted	43	27	33	155	149	99	125	115	62	44	28	16	23	919	86.2%	
	Unbelted	0	3	2	45	37	16	12	17	5	4	2	1	3	147	13.8%	
Uintah	Belted	48	34	48	290	80	55	95	108	60	27	30	11	11	897	79.8%	
	Unbelted	4	5	9	97	44	9	18	23	5	4	4	0	5	227	20.2%	
Utah	Belted	838	495	470	3,743	3,499	1,670	2,072	1,652	949	547	412	190	200	16,737	88.3%	
	Unbelted	29	53	88	833	432	198	227	152	79	39	44	19	33	2,226	11.7%	
Wasatch	Belted	42	33	23	106	97	66	103	96	49	34	13	10	23	695	85.5%	
	Unbelted	1	11	8	35	12	14	16	11	4	2	3	0	1	118	14.5%	
Washington	Belted	143	112	125	868	472	265	393	339	241	206	172	87	77	3,500	85.6%	
	Unbelted	10	12	36	243	99	37	55	31	21	13	17	8	8	590	14.4%	
Wayne	Belted	1	0	1	21	14	13	17	7	7	3	2	1	2	89	77.4%	
	Unbelted	0	0	2	13	2	1	2	1	1	1	2	0	1	26	22.6%	
Weber	Belted	293	220	191	1,929	1,265	799	1,273	1,022	595	382	338	117	121	8,545	88.5%	
	Unbelted	19	31	36	339	226	118	144	88	55	14	26	6	13	1,115	11.5%	
Statewide	Belted	4,708	3,246	3,278	23,001	16,854	10,639	15,684	12,600	7,161	4,077	2,816	1,127	1,553	106,744	89.2%	
	Unbelted	242	367	636	4,413	2,322	1,148	1,543	1,028	483	260	238	103	192	12,975	10.8%	

1998 Seatbelt Use

by Gender, Age and Occupant Placement

Female and male crash occupants and injured occupants reported similar seatbelt use (approximately 85%). For fatally injured occupants, the reported seatbelt use is almost half of that for crash and injured occupants regardless of gender.

Table 9.02 Seatbelt Use by Gender, 1998

Gender	Seatbelt Status	Occupants		Injured Occupants		Fatalities	
		#	%	#	%	#	%
Female	Belted	50,367	90.4%	11,628	82.0%	40	41.2%
	Unbelted	5,369	9.6%	2,560	18.0%	57	58.8%
Male	Belted	56,301	88.1%	8,118	75.4%	44	33.3%
	Unbelted	7,603	11.9%	2,643	24.6%	88	66.7%
Total	Belted	106,668	89.2%	19,746	79.1%	84	36.7%
	Unbelted	12,972	10.8%	5,203	20.9%	145	63.3%
Grand Total		119,640	100.0%	24,949	100.0%	229	100.0%

Reported seatbelt use did not vary substantially by seating location (Table 9.03). Among all occupants and injured occupants, drivers reported the highest seatbelt use compared to other seating locations. For fatally injured occupants, front seat passengers reported the highest seatbelt use.

Table 9.03 Seatbelt Use by Occupant Placement, 1998

Placement	Seatbelt Status	Occupants		Injured Occupants		Fatalities	
		#	%	#	%	#	%
Driver	Belted	74,835	90.7%	13,270	82.7%	50	37.3%
	Unbelted	7,637	9.3%	2,783	17.3%	84	62.7%
Front Seat Passenger	Belted	19,479	85.4%	4,547	73.9%	26	44.1%
	Unbelted	3,328	14.6%	1,602	26.1%	33	55.9%
Back Seat Passenger	Belted	12,430	86.1%	1,934	70.2%	8	22.2%
	Unbelted	2,010	13.9%	820	29.8%	28	77.8%
Total Belted		106,744	89.2%	19,751	79.1%	84	36.7%
Total Unbelted		12,975	10.8%	5,205	20.9%	145	63.3%
Grand Total		119,719	100.0%	24,956	100.0%	229	100.0%

Seatbelt use varied slightly by age (Table 9.04). For all occupants, children under the age of 5 years had the highest rate of reported seatbelt use (95%), whereas, the age group 10 to 14 years old and teenagers aged 15 to 19 years reported the lowest percentage of seatbelt use (84%). Among injured occupants, the age group 65 to 69 years reported the highest seatbelt use and those aged 10 to 14 years reported the lowest. For fatally injured occupants, children under the age of 10 years were reported to have the highest seatbelt use and those aged 15 to 19 years the lowest.

Although the reported seatbelt or child safety seat use rate for children under the age of 10 years was often one of the highest for all age groups, it does not indicate that children were properly restrained. Several statewide surveys have found that child safety seats are often placed incorrectly in vehicles. In addition, young children are moved to adult sized seatbelts when they should be in booster seats. (see page 9.11 for Safety Recommendations).

Table 9.04 Seatbelt Use by Age Group, 1998

Age Category	Occupants		Injured Occupants		Fatalities	
	Total	% Belted	Total	% Belted	Total	% Belted
00 - 04	4,950	95.1%	626	83.7%	7	71.4%
05 - 09	3,613	89.8%	733	76.7%	6	66.7%
10 - 14	3,914	83.8%	942	67.1%	6	50.0%
15 - 19	27,414	83.9%	5,602	68.4%	39	12.8%
20 - 24	19,176	87.9%	3,925	78.4%	27	37.0%
25 - 29	11,787	90.3%	2,529	81.7%	17	23.5%
30 - 34	8,669	91.2%	1,858	84.1%	15	40.0%
35 - 39	8,558	90.9%	1,825	82.4%	19	36.8%
40 - 44	7,448	92.2%	1,581	85.9%	15	26.7%
45 - 49	6,180	92.8%	1,344	85.1%	9	44.4%
50 - 54	4,424	93.7%	981	89.0%	12	41.7%
55 - 59	3,220	93.6%	668	88.9%	12	33.3%
60 - 64	2,352	93.8%	514	87.5%	9	55.6%
65 - 69	1,985	94.2%	444	92.1%	4	50.0%
70 - 74	1,713	92.5%	375	85.3%	8	62.5%
75 - 79	1,341	91.9%	317	84.5%	14	57.1%
80 - 84	818	92.8%	192	89.1%	4	50.0%
85 +	412	89.3%	112	88.4%	5	20.0%
Missing	1,745	89.0%	388	78.9%	1	0.0%
Grand Total	119,719	89.2%	24,956	79.1%	229	36.7%

1998 Children and Restraint Use

The proportion of children under the age of 9 years who were reported as unbelted increased with increasing age (Table 9.05) The majority of children under the age of 2 years (84%) were in child safety seats, compared to 42% of children aged 2 to 4 years who were in child safety seats at the time of the crash. Children under the age of 2 years were 7 times more likely to be in a child safety seat than children between the ages of 2 to 4 years. Ninety percent (90%) of children between the ages 5 to 8 years were belted or in a child safety seat. Child safety seat usage was highest for children in the back seat; children in the back seat were 3 times more likely to be in a child safety seat than children in the front seat.

Utah's Child Restraint Law requires all children under the age of 10 years to be properly restrained when riding in a motor vehicle. In addition, children under the age of 2 years must be restrained in a child safety seat (see page 9.11 for Safety Laws and Recommendations).

Table 9.05 Seating Location and Restraint Status for Children Under the Age 9 Years, 1998

Seating Location	Seatbelt Status	Ages 0 - 1		Ages 2 - 4		Ages 5 - 8		Total
		#	%	#	%	#	%	
Front Middle	Child Safety Seat	39	63.9%	17	12.1%	4	2.7%	56
	Other Belted	17	27.9%	94	67.1%	117	79.1%	111
	Unbelted	5	8.2%	29	20.7%	27	18.2%	34
Front Right	Child Safety Seat	174	75.7%	117	24.6%	14	1.7%	291
	Other Belted	40	17.4%	313	65.9%	715	88.9%	353
	Unbelted	16	7.0%	45	9.5%	75	9.3%	61
Back Seat	Child Safety Seat	1,376	85.7%	1,145	47.2%	91	4.5%	2,521
	Other Belted	208	13.0%	1,154	47.6%	1,715	85.5%	1,362
	Unbelted	21	1.3%	127	5.2%	199	9.9%	148
Total	Child Safety Seat	1,589	83.8%	1,279	42.1%	109	3.7%	2,868
	Other Belted	265	14.0%	1,561	51.3%	2,547	86.1%	1,826
	Unbelted	42	2.2%	201	6.6%	301	10.2%	243
Grand Total		1,896	100.0%	3,041	100.0%	2,957	100.0%	7,894

1998 Ejection by Seatbelt Use

Figure 9.03 Ejection by Seatbelt Use, 1998

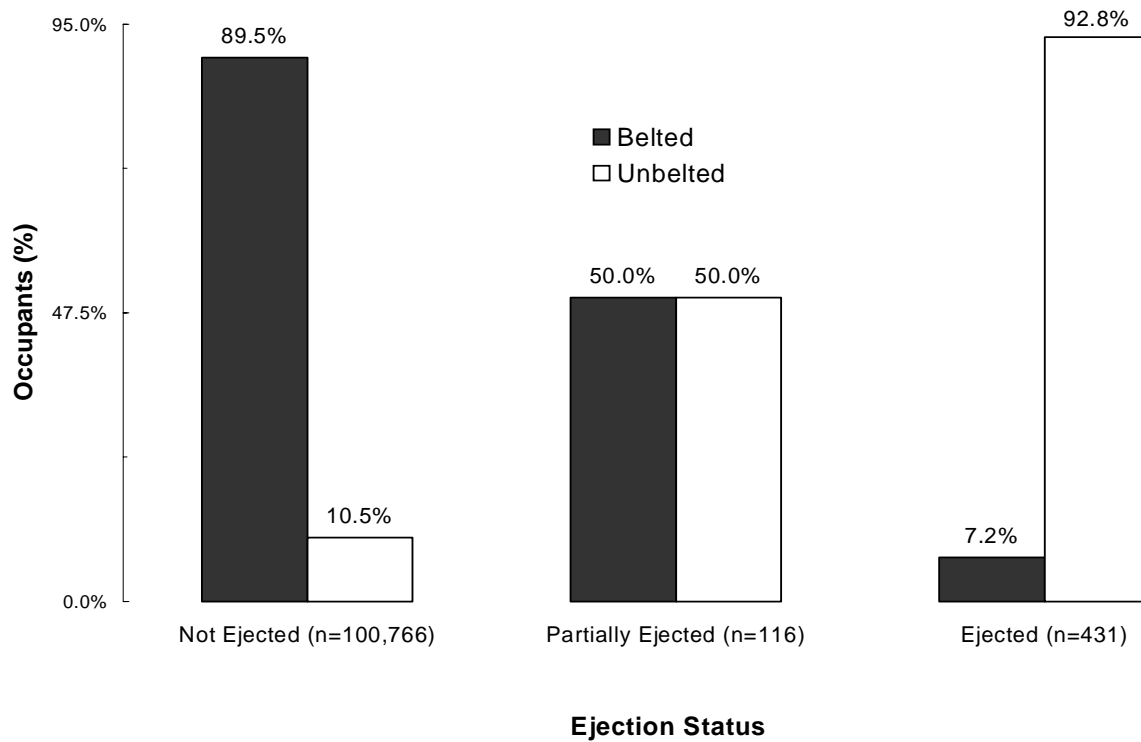


Figure 9.03 shows an inverse relationship between ejection from a motor vehicle and seatbelt use. The majority (93%) of the occupants ejected from a motor vehicle were not reported to be using a seatbelt compared to only 11% of reported non-seatbelt use for those occupant not ejected.

1998 Air Bags

Table 9.06 shows the age of occupants whose air bag deployed and the percentage belted. Regardless of crash severity, the majority of occupants whose air bag deployed were wearing a seatbelt .

Table 9.06 Percentage of Seatbelt Use for Occupants Whose Air Bag Deployed, 1998

Age Category	Occupants		Injured Occupants		Fatalities	
	Total	% Belted	Total	% Belted	Total	% Belted
00 - 04	10	90.0%	2	100.0%	1	100.0%
05 - 09	9	66.7%	6	83.3%	0	0.0%
10 - 14	30	80.0%	25	76.0%	0	0.0%
15 - 19	304	82.6%	213	79.8%	0	0.0%
20 - 24	277	88.1%	180	84.4%	0	0.0%
25 - 29	179	90.5%	135	88.1%	1	100.0%
30 - 34	108	88.0%	67	85.1%	2	100.0%
35 - 39	96	88.5%	62	83.9%	1	100.0%
40 - 44	86	89.5%	65	92.3%	1	0.0%
45 - 49	84	89.3%	62	88.7%	2	100.0%
50 - 54	69	89.9%	45	86.7%	2	50.0%
55 - 59	33	93.9%	20	90.0%	1	100.0%
60 - 64	37	91.9%	26	92.3%	1	100.0%
65 - 69	43	95.3%	32	93.8%	1	100.0%
70 - 74	22	86.4%	17	82.4%	0	0.0%
75 - 79	21	100.0%	12	100.0%	0	0.0%
80 - 84	16	93.8%	11	90.9%	0	0.0%
85 +	9	100.0%	7	100.0%	0	0.0%
Missing	11	90.9%	7	100.0%	0	0.0%
Grand Total	1,444	88.0%	994	85.7%	13	84.6%

Safety Restraint Laws And Recommendations

Seatbelt Use Law

Utah law requires all drivers and front seat passengers to be wearing a seatbelt when traveling in a motor vehicle. The law is a secondary law which means a person may be issued a citation only when the police officer has stopped the vehicle for another reason. Any person who violates this law is subject to a fine of \$10. Exceptions to the law include, delivery personnel, rural letter carriers, persons driving vehicles used for farm purposes, individuals in motor vehicles manufactured before July 1, 1966, and individuals with physically disabling or medical condition which would prevent appropriate use of a safety belt. Visitors from outside Utah are also required to wear a seatbelt when traveling in Utah.

Child Passenger Safety Law

All children under the age of 10 years must be properly restrained in a motor vehicle. Children under the age of 2 years must ride in an approved child safety seat and children aged 2 to 10 years must ride in an approved child safety seat or seatbelt. This is a primary law which means an officer can stop a vehicle if he/she notices children are not properly restrained. A fine can be issued solely for not restraining a child under the age of 10 years and violators will be subject to a fine of not more than \$75. The first offense shall be dismissed if the driver shows proof of acquiring a child safety seat or seatbelt. The law applies to all drivers, whether or not they are the parents of the unrestrained child.

Child Safety Seat Recommendations

- Infants should be placed in a rear facing child safety seat until they are at least 20 pounds AND 1 year of age.
- Children over 1 year of age weighing 20 - 40 pounds should ride in forward facing child safety seats.
- Older children (approximately 4-8 years of age) should ride in belt-positioning booster seats until they are approximately 60 - 80 pounds and can use an adult-size lap and shoulder belt system.
- Avoid using secondhand child safety seats especially if it does not have the original instruction booklet, if it has been used in a crash, if it does not have the manufacturer's date and model number on it or if it is more than six years old.
- The back seat is the safest place for children to ride.
- More than 95% of child safety seats are misused. Please be sure to read your child safety seat instruction manual and vehicle owners manual carefully and make sure it fits properly in your vehicle.

Seatbelt Recommendations

- Always use both the lap and shoulder belt. When worn properly, the shoulder belt should fit across the collar bone and the lap belt should fit low over the hips.
- Never place the shoulder strap under your arm or behind your back.
- Use belt-positioning booster seats for children who have outgrown their toddler safety seat (at about 4 years of age and 40 pounds). Booster seats help position an adult-size seatbelt for a safer fit on children.

Air Bag Safety Recommendations

- NEVER place a rear facing child safety seat in the front seat of a vehicle with a passenger side air bag.
- Place children age 12 years and younger in the back seat in an age and size-appropriate child safety seat or seatbelt.
- If you are the driver, keep 10 - 12 inches between you and the steering wheel.
- Move the front passenger seat as far back as possible.
- Shorter drivers, who cannot get 10 inches from the steering wheel and still comfortably reach the pedals can purchase pedal extender (call (813) 932-8566 for more information).
- Air bags are "supplemental" to seatbelts. Be sure you and your passengers use both the lap and shoulder portion of the seatbelt and children ride in appropriate child safety restraints in the back seat.
- If you MUST disconnect your vehicle's air bag contact Utah Highway Safety at (801) 293 -2480 or log onto the National Highway Traffic Safety Administration website at <http://www/nhtsa.dot.gov> for information.